

IN THE UNITED STATES PATENT & TRADEMARK OFFICE
AMENDEMENT

AMENDMENT TO THE SPECIFICATION:

In BACKGROUND OF INVENTION

Page 1, Paragraph 1, Line 13-Line 23, Please replace with the following amended paragraph:

This invention relates to devices for shoring open excavations. The device includes a pair of shoring panels held vertically apart and parallel to each other against sidewalls of excavation by a pair of strutting assemblies. Each shoring panel has laterally, on either end a vertical guide, [edge] and lengthwise two identical cutting edges of triangular cross section. The cutting edges are inversely arranged one on the top and the other at the bottom of the panel and opposite relative to sidewall of excavation. The panel is therefore versatile by mean that it could be [and is] used all ways, the inside out or upside down. Each strutting assembly has a pair of vertical struts held against each other by at least one horizontal strut that is fastened by pin or bolts onto vertical struts. Each vertical strut is provided lengthwise with a [circular] panel guide [channel encompassing] cooperatively engaging the guide [edge] of shoring panel and interlocking with it, so that shoring panels slide independently from each other, while the strutting assembly can adjust different pipe culverts. In another perspective, the panel is versatile in the sense that it could be used as a traditional trench shield, as a sliding system in combination with the strutting assembly and/or with any other sliding shoring device provided with panel guide that fits the guide of shoring panel.

Please add the following new paragraph after Paragraph 3, Page 2, Line 7:

Other types of shoring devices having panels and sliding spreaders are disclosed in U.S. Patent No. 3,530,679 (Krings), and U.S. Patent 5,503,504 (Hess et al.). The panels used by these devices comprise support columns or special legs fastened temporarily or permanently onto the side of the panel, which is inner relative to interior of the trench. Individual spreaders or a strutting frame slide formlockingly between respective opposite

columns of a pair of panels. For any of these devices, the panel is designated to work with a defined type of spreader system and in a very unique way. The bottom and upper part of the panel are not technically substitutable, likewise the side of the panel which is inner relative to interior of the trench can not be outer and vice-versa. The columns or legs fastened onto inner side of the panel increase drastically the volume in transportation or the storage of such panels. A very important limiting aspect of mentioned devices is the fact that their panels are not, or could not be used with other existing types of shoring devices requesting additional inventory in panel. Other difficulties related to staking of two or more of these devices, have revealed limitations regarding successive alignment of the columns and/or spreader system.

Page 2, Paragraph 4, Line 24-Line 28, Please replace with the following amended paragraph:

US Patent Nos. 3,621,660, 3,910,053 and 4,657,442 (Krings), Nos. 5,310,289 (Hess) [and 5,503,504] (~~Hess et al.~~), Nos. 6,164,874 (May) disclose various slide rail shoring system, all of them including multiple pairs of columns, spreader systems and large shoring panels. The support columns and the spreader systems used with these shoring systems are very heavy and are often hammered to push it down which often results with strong damages and heavy costs in maintenance.

In BRIEF SUMMARY OF THE INVENTION

Page 2, Paragraph 6, Line 35-Page3, Paragraph 1, Line 2, Please replace with the following amended paragraph:

Pursuing this objective and others that will be explicit subsequently, one important aspect of the present invention resides on design of a strutting assembly that slides vertically formolckingly along lateral guides of shoring panels accommodating different pipe culverts and securing the soils surrounding the excavation while shielding the working space inside it.

In DETAILED DESCRIPTION OF INVENTION

Page 5, Paragraph 3, Line 11-Line 17, Please replace with the following amended paragraph:

As shown in the FIG. 3, the panel 1 has laterally at extremity a guide [edge] 4 of tubular cross section. The vertical strut 2 consists of a panel guide [channel] 5 encompassing the guide [edge] 4 of the panel 1, the support flange 6, the horizontal tube 7, the contact flange 10A, the vertical reinforcement pieces 8A, 8B, the horizontal stiffener 9 and a lifting plate 12 provided with a hole, not shown. The horizontal strut 3 is fastened by bolts 11A and 11B via flange 10B onto the vertical strut 2. The panel guide [channel] 5 interlock horizontally with the guide [edge] 4 while allowing the vertical movement of panel 1 relative to vertical strut 2.

Page 5, Paragraph 4, Line 18-Line 21, Please replace with the following amended paragraph:

FIG. 4 shows the panels 1 having lateral guides guiding [edges] 4A and 4B along either end, the cutting edges 16A and 16B respectively at the bottom and along the top upper part [of the panels], and the lifting plates 13A, 13B, 13C, 13D. Two extra lifting and/or pulling cross bars 15A and 15B are provided within square holes 14A and 14B.

Page 5, Paragraph 7, Line 34-Line 36, Please replace with the following amended paragraph:

As shown in FIG. 7 the panel guide [channels] 5A and 5B are respectively welded onto the support flanges 6A and 6B via flat bars 21A, 21B and 22A, 22B. The pin 20 represent a connection of choice between horizontal strut 3 and tube 7A.

Page 6, Paragraph 3, Line 7-Line 10, Please replace with the following amended paragraph:

FIG. 10 shows a cross section of another type of interlocking connection between panel 1 and the vertical strut 2. In this case, the panel is provided at extremity with a circular guide channel 4 while the vertical strut 2 has a tubular panel guide [edge] 5 sliding within.